

Claims

We claim:

- 1 1. A method comprising:
2 defining, by a server, a set of one or more properties defining a client
3 configuration of interest;
4 communicating over a network, from the server to one or more clients, the
5 configuration of interest; and
6 evaluating dynamically the state of each of the one or more clients relative to
7 the configuration of interest communicated from the server.
- 1 2. The method of claim 1, further comprising:
2 communicating a state relative to a configuration of interest for each of the
3 one or more clients over the network to the server.
- 1 3. The method of claim 1, further comprising:
2 associating by the server, a configuration of interest with one or more
3 actions.
- 1 4. The method of claim 3, further comprising:
2 executing on the client the actions associated with the configuration of
3 interest.
- 1 5. The method of claim 1, further comprising:
2 re-evaluating the configurations of interest.
- 1 6. The method of claim 5, further comprising:
2 requesting updated configurations of interest.

1 7. A method comprising:
2 receiving, on a client over a network from a server, one or more
3 configurations of interest;
4 evaluating dynamically the state of the client relative to the configurations of
5 interest received; and
6 sending a data structure from the client to the server, wherein the data
7 structure includes data representative of client properties in relation to the
8 configurations of interest on the client.

1 8. The method of claim 7, wherein evaluating the state of the client is
2 performed dynamically on the client.

1 9. The method of claim 7, wherein receiving one or more configurations of
2 interest includes receiving one or more configurations of interest updates.

1 10. The method of claim 9, wherein the one or more configurations of interest
2 updates are received in response to the client communicating with the server to
3 determine if an update is available.

1 11. The method of claim 10, wherein the client communicating with the server
2 occurs upon the occurrence of an action.

1 12. A method comprising evaluating local properties of a client computer
2 dynamically over a network for conformance with a configuration of interest
3 defined on a server.

1 13. The method of claim 12, wherein the configuration of interest is associated
2 with a set of actions, the actions including one or more actions selected from the
3 group including: install, execute, delete, uninstall, and update.

1 14. A method comprising:
2 maintaining a list of configurations of interest and one or more actions
3 associated with each of the one or more configurations of interest;
4 receiving data representing a current state of a client computer relative to
5 each one of the configurations of interest;
6 determining an action to be carried out based on the data representing the
7 current state of the computer and the configurations of interest;
8 receiving dynamically updated data representing the current state of the
9 client computer relative to each one of the configurations of interest; and
10 determining dynamically the action to be carried out based on the updated
11 data representing the current state of the client computer relative to each one of the
12 configurations of interest.

1 15. The method of claim 14 further comprising carrying out the action.

1 16. The method of claim 14 wherein the action to be carried out comprises
2 providing a set of actions to the client for each one of the configurations of interest
3 that the current state of the client matches.

1 17. The method of claim 14 wherein the action to be carried out comprises
2 performing a set of actions based on the configuration of interest.

1 18. The method of claim 17 wherein the set of actions comprises adding the client
2 computer to a logical group of computers.

1 19. A user interface that is operable for editing a configuration of interest for
2 storage on a server and distribution to clients over a network, wherein the
3 configuration of interest, when distributed to clients, causes the clients to identify
4 themselves to the server according to their states relative to the configuration of
5 interest, further wherein the configuration of interest persists on the clients and upon

6 modification of properties on a client encompassed by the configuration of interest
7 the modification is communicated to the server.

1 20. The user interface of claim 19, wherein clients identified to the server are
2 displayable as an association of clients and the user interface is further operable for
3 performing administrative actions on the association of clients through manipulation
4 of the configuration of interest.

1 21. The user interface of claim 20, wherein the administrative actions include
2 installing and uninstalling software on the clients of the association.

1 22. The user interface of claim 19, wherein upon modification the client
2 communicates an indication of the modification to the server.

1 23. A computer readable medium, with instructions thereon to cause an
2 appropriately configured computer to:
3 receive, on a client over a network from a server, one or more configurations
4 of interest;
5 evaluate dynamically the state of the client relative to the configurations of
6 interest received; and
7 send a data structure from the client to the server, wherein the data structure
8 includes data representative of a client state in relation to the configurations of
9 interest on the client.

1 24. The computer readable medium of claim 23, wherein the evaluation of the
2 state of the client is dynamically performed.

1 25. The computer readable medium of claim 23, further including instructions to
2 cause the appropriately configured computer to:
3 receive one or more configurations of interest updates.

1 26. A computer readable medium, with instructions thereon for causing an
2 appropriately configured computer to dynamically evaluate local properties of a
3 client computer, over a network, for conformance with a configuration of interest
4 defined in a data store.

1 27. A computer readable medium, with instructions thereon for causing an
2 appropriately configured computer to:
3 maintain a list of configurations of interest and one or more actions
4 associated with each of the one or more configurations of interest;
5 receive data representing a current state of a client computer relative to each
6 one of the configurations of interest;
7 determine an action to be carried out based on the data representing the
8 current state of the computer and the configurations of interest;
9 receive, dynamically, updated data representing the current state of the client
10 computer relative to each one of the configurations of interest; and
11 determine, dynamically, the action to be carried out based on the updated
12 data representing the current state of the client computer relative to each one of the
13 configurations of interest.

1 28. The computer readable medium of claim 27, further comprising instructions
2 for causing the appropriately configured computer to:
3 carry out the action.

1 29. The computer readable medium of claim 27, wherein the action to be carried
2 out comprises a set of actions based on the configuration of interest.

1 30. The computer readable medium of claim 28, wherein the set of actions
2 comprises actions for adding the client computer to a logical group of computers.

1 31. The computer readable medium of claim 27, further comprising instructions
2 for causing the appropriately configured computer to:

3 provide a set of actions to the client for each one of the configurations of
4 interest that the current state of the client matches.

1 32. A system comprising:
2 a mechanism to define configurations of interest and to convey the
3 configurations of interest; and
4 a mechanism to receive configurations of interest and to dynamically
5 evaluate local properties relative to the configurations of interest.

1 33. A system comprising:
2 a processor;
3 a memory;
4 a network interface; and
5 software in the memory that is operable on the processor to cause the system
6 to:
7 provide a mechanism to define configurations of interest,
8 distribute one or more of the configurations of interest to one or more
9 client computers over the network interface, and
10 receive dynamically, over the network interface, data representing a
11 current state of each of the one or more client computers relative to one or
12 more of the configurations of interest, wherein each client computer
13 communicates current state data dynamically upon a state change.

1 34. The system of claim 33, wherein the software is further operable on the
2 processor to:
3 provide a mechanism to define actions;
4 associate one or more actions with one or more of the configurations of
5 interest; and
6 determine dynamically, one or more actions to be carried out based upon
7 received client computer current state data.

1 35. The system of claim 34, further comprising:
2 a display; and
3 wherein the software is further operable on the processor to display a
4 graphical representation of the configurations of interest and one or more client
5 computers having a particular configuration of interest indicated by the received
6 data representing the current state of each client.

1 36. A system comprising:
2 a processor;
3 a memory;
4 a network interface; and
5 software in the memory that is operable on the processor for causing the
6 system to:
7 receive one or more configurations of interest over the network
8 interface,
9 evaluate the properties of the system dynamically to determine a
10 current system state in relation to each of the one or more configurations of
11 interest, and
12 communicate, dynamically over the network interface to a server, the
13 current system state in relation to each of the one or more configurations of
14 interest.

1 37. The system of claim 36, wherein the software is further operable on the
2 processor for causing the system to:
3 check the server for updates to each of the one or more configurations of
4 interest; and
5 receive over the network interface and apply updates to each of the one or
6 more configurations of interest.

1 38. The system of claim 36, wherein the software is further operable on the
2 processor for causing the system to:

3 receive commands from the server over the network interface to cause the
4 system to perform one or more actions associated with one or more of the
5 configurations of interest.

1 39. The system of claim 39, wherein the commands from the server include one
2 or more commands selected from a list including: install, execute, delete, uninstall,
3 and update.

1 40. A computer readable medium with instructions thereon to cause appropriately
2 configured computers to:
3 define a set of one or more properties identifying a configuration of interest;
4 associate the configuration of interest with one or more actions;
5 communicate the configuration of interest from a server to one or more
6 clients;
7 evaluate the state of each of the one or more clients dynamically in relation
8 to the configuration of interest communicated; and
9 communicate a state relative to a configuration of interest for each of the one
10 or more clients to the server.

1 41. The computer readable medium of claim 40 wherein the method further
2 comprises executing the one or more actions associated with the configuration of
3 interest.

1 42. The computer readable medium of claim 41 wherein the method further
2 comprises providing a list of actions to at least one of the clients.

1 43. A computer readable medium with instructions thereon to cause an
2 appropriately configured computer to:
3 organize a plurality of client computers on a network into one or more
4 logical groups based on values of one or more properties evaluated dynamically on
5 each of the client computers.

1 44. The computer readable medium of claim 43, the method further comprising
2 re-evaluating the one or more properties on the client computers.

1 45. The computer readable medium of claim 43 the method further comprising
2 dynamically updating the one or more logical groups based on an updated value of
3 one of the properties.

1 46. A computerized method of creating logical groups of networked computers,
2 the method comprising evaluating dynamically, logical statements locally on each
3 one of a plurality of target computers and, based on the evaluation of the logical
4 statements, for each target computer, determining dynamically whether to add an
5 identifier for the target computer to a logical group on a remote computer.

1 47. The computerized method of claim 46 wherein the logical statements are
2 authored on the remote computer.

1 48. The computerized method of claim 46 wherein the logical statements are
2 imported by the remote computer.

1 49. A computer readable medium encoded with a data structure created by a
2 server for access by a network device, the data structure comprising:
3 one or more statements, each one of the statements comprising:
4 a property identifier to be evaluated locally on a network device,
5 a value with which the property is to be compared, and
6 a comparison operator to compare the locally-evaluated property
7 identifier with the value;
8 logical operator data, the logical operator data comprising logical operators
9 for combining the statements to be evaluated by the network device; and

10 precedence operator data, the precedence operator data comprising
11 precedence operators controlling the logical evaluation of the one or more
12 statements and the logical operator data.

1 -50. The computer readable medium of claim 49 wherein the property identifier
2 data comprises data is selected from the group consisting of: an environment
3 variable, a predefined variable, a registry key, a registry value, an INI value, a file, a
4 file version, and a folder.

1 51. The computer readable medium of claim 49 wherein the comparison
2 operator data is selected from the group consisting of: =, <>, <, <=, >, >=, EXISTS,
3 MATCHES, and GREPMATCHES.

1 52. The computer readable medium of claim 49 wherein the logical operators
2 are selected from the group consisting of: AND, OR, and NOT.

1 53. The computer readable medium of claim 49 wherein the precedence
2 operators are parentheses.

1 54. A user interface operable to define a configuration of interest, the user
2 interface comprising:
3 a first field to define a property identifier to be evaluated locally on a
4 network device,
5 a second field to define a value with which the property is to be compared,
6 and
7 a third field to define a comparison operator to compare the locally-
8 evaluated property identifier with the value wherein the first field, the second field
9 and the third field define a statement.

1 55. The user interface of claim 54 further comprising a fourth field to define a
2 logical operator for combining two or statements to be evaluated by the network
3 device.